DOCUMENT RESUME

ED 241 633 UD 023 385

AUTHOR Cook, Michael S.
TITLE Jobs and Schooling: Youth Employment, Personality and Delinquency in a Sample of Dropouts from Urban Schools. Report No. 348.
INSTITUTION Johns Hopkins Univ., Baltimore, Md. Center for Social Organization of Schools.
SPONS AGENCY National Inst. for Juvenile Justice and Delinquency Prevention (Dept. of Justice/LEAA), Washington, D.C.; National Inst. of Education (ED), Washington, DC.
PUB DATE Dec 83
NOTE 31p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Continuation Students; *Delinquency; *Dropouts; *Employment Level; Interpersonal Competence; Low Income Groups; Mental Health; Personal Autonomy; *Personality Change; Personality Traits; Predictor Variables; Psychological Characteristics; *Reentry Students; Secondary Education; *Urban Youth

ABSTRACT

As part of the School Action Effectiveness Study, 406 Milwaukee inner-city, unemployed dropout youths were surveyed seven months after intake into an employment counseling and placement center. Personality characteristics were assessed at intake. At follow-up, personality characteristics, employment and schooling status, and self-reported police contacts were measured. Hierarchical multiple regression analyses controlling for previously measured personality suggest that employment has no effect on "psychological health" or "interpersonal competency." One of the five measures of employment status (fulltime work in the last six months) explained a significant 2 percent of the variance in "rebellious autonomy" at follow-up. Return to school had significant negative effects on psychological health and interpersonal competency for this dropout sample. Self-reported arrests were associated with age, gender, and interpersonal competency; there was no relationship between employment and delinquency in these data. These results have implications in terms of options available to dropout youth. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED241633

Jobs and Schooling: Youth Employment, Personality And Delinquency in a Sample of Dropouts from Urban Schools

Michael S. Cook

The Johns Hopkins University

Report No. 348
December, 1983

This report is a product of the School Action Effectiveness Study, which is supported in part by a grant from the National Institute for Juvenile Justice and Delinquency Prevention, U.S. Department of Justice. The opinions expressed are the author's, and do not necessarily reflect the position or policy of the Institute.

Published by the Center for Social Organization of Schools, supported in part as a research and development center by funds from the National Institute of Education, U.S. Department of Education. The opinions expressed in this publication do not necessarily reflect the position or policy of the National Institute of Education, and no official endorsement by the Institute should be inferred.

Center for Social Organization of Schools
The Johns Hopkins University
3505 North Charles Street
Baltimore, MD 21218

UD023385

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
J. Hollifield
Center for the Social Organization of Schools
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

The Center

The Center for Social Organization of Schools has two primary objectives: to develop a scientific knowledge of how schools affect their students, and to use this knowledge to develop better school practices and organization.

The Center works through three research programs to achieve its objectives. The School Organization Program investigates how school and classroom organization affects student learning and other outcomes. Current studies focus on parental involvement, microcomputers, use of time in schools, cooperative learning, and other organizational factors. The Education and Work Program examines the relationship between schooling and students' later-life occupational and educational success. Current projects include studies of the competencies required in the workplace, the sources of training and experience that lead to employment, college students' major field choices, and employment of minority youth. The Delinquency and School Environments Program researches the problem of crime, violence, vandalism, and disorder in schools and the role that schools play in delinquency. Ongoing studies address the need to develop a strong theory of delinquent behavior while examining school effects on delinquency and evaluating delinquency prevention programs in and outside of school.

The Center also supports a Fellowships in Educational Research program that provides opportunities for talented young researchers to conduct and publish significant research and encourages the participation of women and minorities in research on education.

This report, prepared by the Delinquency and School Environments Program, examines how employment and returning to school are associated with changes in personality and delinquent behavior for a sample of dropouts from urban schools.

Abstract

As part of the School Action Effectiveness Study, 406 Milwaukee inner-city, unemployed, dropout youth were surveyed seven months after intake into an employment counseling and placement center. Personality characteristics were assessed at intake. At follow-up, personality characteristics, employment and schooling status, and self-reported police contacts were measured. Hierarchical multiple regression analyses controlling for previously measured personality suggest that employment has no effect on Psychological Health or Interpersonal Competency. One of five measures of employment status (full-time work in the last six months) explained a significant 2% of the variance in Rebellious Autonomy at follow-up. Return to school had significant negative effects on Psychological Health and Interpersonal Competency for this dropout sample. Self-reported arrests were associated with age, gender, and Interpersonal Competency; there was no relationship between employment and delinquency in these data. The results are discussed in terms of the options available to drop out youth.

Introduction

Conventional wisdom suggests that youth employment builds character, develops career competencies, provides a stake in conformity, and prevents delinquency. But two independent groups of investigators have recently questioned the popular idea that employment is beneficial for youth (Greenberger, Steinberg, and Vaux, 1981; Shannon, 1982a).

Greenberger, Steinberg and Vaux, (1981), summarizing their research with Orange County California 14- and 15-year olds, suggest that youth employment leads to deterioration in school attendance, and increased use of cigarettes, alcohol, and marijuana. Looking at delinquency as an outcome, Shannon (1982b, p. 8-9) found that: "Contrary to the notion that employment while in high school deterred delinquency (in the Racine study), those who were employed during both the summer and the school year...had somewhat more police contacts and higher seriousness scores than did others. Furthermore, there were significant increases in the number of police contacts and seriousness scores after full-time employment for those who commenced their first full-time employment at the age of 17 or earlier."

Researchers have offered a number of theories of why employment might result in negative outcomes for youths. Greenberger and Steinberg and their collegues have argued that the kinds of jobs youth hold expose them to job stress

(Greenberger, Steinberg, and Vaux, 1981), negative socialization in the workplace (Greenberger, Steinberg, and Ruggiero, 1982), and compete with the time available for schooling (Greenberger, Steinberg, and Vaux, 1981). Regarding youth crime, Hirschi (1983) suggests that youth employment could increase delinquency by decreasing the control that parents have over their children, because employment provides youth with money that counteracts any financial "leverage" that parents have over their teenagers: an important source of social control. Hirschi (1983) also notes that the work of Patterson and his colleagues (see Patterson, 1980), implies that employment may contribute to youth crime by decreasing the amount of surveillance that parents have over their children. Therefore, employment may result in negative outcomes for in-school youth because of negative socialization, job stress, interference with schooling, access to surplus funds, and freedom from parental supervision.

Overlooked in current discussions of possible negative effects of employment on school-aged youth is the question of how employment affects youth who have already withdrawn from school. Greenberger, Steinberg and Vaux (1981) have posed employment against schooling--one is presumed to interfere with the other. If the alleged negative effects of employment are mediated by its effects on school performance, then presumably, those negative effects are moot for

dropout youth. Although there have been no comparisons for dropout youth on differences in either stress or exposure to negat ve socialization between being employed or unemployed, there does not seem to be any a priori reason to assume that "job stress" is more damaging than "unemployment stress." Likewise, if negative socialization does take place for youth in the workplace, there is no evidence to believe that street life is less (or more) negatively socializing. It seems reasonable that for youth who have already dropped out, employment may be a better alternative psychologically than simply "hanging out." The question is, for youth who have already discontinued their formal schooling, is employment harmful or beneficial to their psychosocial functioning?

Another policy issue concerns returning the dropout to school. Should the dropout be encouraged to re-enroll? Common wisdom holds that a high school diploma is vital to life success and should be vigorously pursued. Yet it is an open question whether youth should be returned to an environment that was so nonrewarding or punishing as to cause them to withdraw from it.

There is some limited evidence that dropping out of school has positive effects on the psychosocial functioning of dropout prone adolescents. Elliot and Voss (1974) found that although youths who eventually dropped out of school

were more delinquent than non-dropout youths, the dropout youths' delinquency decreased after they had left school. Elliot and Voss argue that negative experiences at school contribute to the delinquency of dropouts while they are still in school. Bachman, Green, and Wirtanen (1975), studying a national sample of boys, found that the "Self-esteem" of dropouts increased following dropping out (p. 113), their "Impulse to Aggression" decreased (p. 117), and their "Internal Control" increased (p. 121). Also, "Interpersonal Aggression" (p. 124) decreased following dropping out. Measures of "Negative Affective States" (p. 117), "Happiness" (p. 117), "Frequency of Delinquent Behavior" (p. 124), and "Seriousness of Delinquency" (p. 124) show no change. Unfortunately, it is unclear how much if any of the changes found in the Bachman, Green, and Wirtanen research are due to dropping out, or to a general developmental trend toward increased psychological health and decreased delinquency throughout adolescence (many of the results are paralleled by high school graduates and college attenders).

The primary weakness in the Bachman, Green, and Wirtanen report is that it is impossible to ascertain precisely when the youth had dropped out. Because of constaints on sample size the researchers had to pool all youth who eventually dropped out over a three-year period. For many of the cross-time comparisons, unknown numbers of youth in the "dropout" group were still in school. What <u>is</u> clear from

Bachman, Green, and Wirtanen's data is that dropping out certainly does not harm psychological functioning and does not contribute to delinquent behavior.

This paper addresses the issue of the employment or return to schooling of dropout youth by examining data from a follow-up of dropout urban youth. Participants in the study had characteristics of their personalities assessed. Seven months later, personal characteristics, and work history, schooling, and delinquency since initial aassessment were measured. Multiple regression techniques are used to examine how employment and return to school contribute to personality change. In addition, the simple relationships between these variables and delinquency are examined.

A method for using developmental data to probe the plausibility of causal explanations (e.g. employment decreases psychological health) is to build statistical models for the data. This causal modeling approach requires that researchers make certain assumptions explicit and use data about behavior to assess the implications of the model. The model used assumes that personality, the environments people inhabit, and the behavior exhibited by people in those environments are relatively stable, and that it is likely that stable personality and situational characteristics determine persistence in school, labor market behavior, and delinquent behavior. We assume that a correlation between working and

personality (and delinquency for that matter) must be interpreted in this context; such a correlation is to be regarded as spurious if statistical controls for previous measures of personality and behavior reduce the correlation nearly to zero.

Method

Subjects

Participants in the study were 406 16- and 17-year-old (mean age = 16.77) official school dropouts from Milwaukee, Wisconsin, and surrounding suburbs. They were self-referred, or had been referred by an agency to a job-seeking skills training and placement center. Beginning in August, 1981, and continuing until February, 1982, all persons seeking intake into the training and placement center became participants in the School Action Effectiveness Study (Gottfredson and Gottfredson, 1982; Gottfredson, Gottfredson, and Cook, 1983). All participants were unemployed at intake to the program; most had only very recently dropped out of school, and many were referrals from the Milwaukee Public School system.

At intake, persons were randomly assigned to treatment or no-treatment control. Evaluation of the program indicated no outcome differences between the two groups, largely because the program failed to provide the requisite services to the treatment youth (see Cook, 1983). For parts of this

study, therefore, the treatment and control groups will be combined to study the effects of naturally occuring changes in employment status.

The subjects were followed-up seven months after intake (the last follow-up was completed in August, 1982). Most subjects were administered a follow-up survey at the offices of the job training center or at their home. A few subjects that could not be otherwise contacted completed the follow-up survey over the telephone. Of the original sample, 321 (79%) were located and surveyed. The present study sample consists of these 321 youth who are 56% Black, 7% Hispanic, 32% White, and 5% Other. Sixty-four percent of the sample are male. The majority of the youths were from inner city Milwaukee from low-income backgrounds. Because more information is available for them, however, most of the analyses reported below involve only the 203 treatment youth who were followed up (81% of the original treatment sample). This subset of youth was 67% male, and 29% White.

Measures

At intake, each youth was pretested to measure several personality characteristics. At follow-up, each answered a questionnaire that again assessed several personal characteristics, plus past and present employment status, involvement in educational activities, and self-reported arrests. Responses to the two questionnaires, administered seven months apart, constitute the primary data for the study.

The pre- and post-test measures of personal characteristics were subjected to principal factor analysis with iterated communalities. Three factors had eigenvalues greater than 1.0 and were subjected to VARIMAX rotation. Separate analyses of the pretest and post-test items yielded similar factors. The three factors were labeled Psychological Health, Interpersonal Competency, and Rebellious Autonomy.

Scales were constructed from the items loading most highly on each of the three factors; a particular item was only included on the scale on which it had its greatest loading. Although the three factors were similar for the two testing periods, there were differences in a few items. Various combinations of items were subjected to internal consistency item analysis to develop a set of items that worked well for each of the three scales at both times. Table 1 gives the item content and scoring for the three psychosocial measures developed through these procedures. Psychological Health had an alpha reliability coefficient of .61 at pretest and .59 at post-test, and a seven month test-retest correlation of .40. Interpersonal Competency had an alpha of .45 at pretest and .46 at post-test. This scale shows low seven month test-retest reliability (.19), but was retained because of its adequate internal consistency (low test-retest reliability could result from theoretically interesting developmental changes), and because all but one of its items come from Holland and Baird's (1967)

well-studied Interpersonal Competency Scale. The third scale, Rebellious Autonomy, had alpha coefficients of .49 at both pre- and post-test and a test-retest reliability of .39.

Insert Table 1 about here

As Table 1 shows, Psychological Health is a general measure of psychological functioning, and includes items similar to those found in depression, alienation, and self-esteem scales. Interpersonal Competency is a scale of reports about one's ability to interact and get along with others. Rebellious Autonomy is a series of items that measure the respondent's belief that no can tell them what to do or how to spend their money. Psychological Health was slightly correlated with Interpersonal competency, r ($N = 290$) = .16, $p < .01$. Psychological Health and Rebellious Autonomy were uncorrelated r ($N = 291$) = -.09, n.s., as were Interpersonal Competency and Rebellious Autonomy, r ($N = 288$) = .04, n.s.

Employment items, measured at follow-up, included current hourly wages, current hours worked per week, and hours worked full and part-time "in the last six months." This insured that all respondents would be reporting only on employment experience acquired since intake. This set of

items also yielded estimates of current weekly wages, and total earnings during the last six months.[1] Current educational status was also assessed (re-enrolled in high school, technical/vocational training, or formal G.E.D. instruction),[2] and the youths were asked to report on the number of times they had been picked up by the police during the last six months.[3]

A basic skills test (ABLE reading and mathematics) was administered only to the youths assigned to treatment. Because it was correlated with many of the variables of interest, it was used as a covariate in the analyses that follow. Because it was only available for the treatment youth, its inclusion in the analyses reduced the effective N available for most analyses. Simple correlational results presented below for the delinquency data use the entire data set, including those youths for whom there were no basic skills scores available.

Analyses

Regression models were constructed to explain Psychological Health, Interpersonal Competency, and Rebellious Autonomy at follow-up. We used a hierachical model in which background and personality measures at intake to the treatment program were entered first: Sex (male coded "0," female coded "1"), ethnicity (White coded "1," Black, Hispanic, and Other coded "0"), age, month of enrollment (to

control for any change in employment availability over time), Psychological Health at pretest, Interpersonal Competency at pretest, and Rebellious Autonomy at pretest. An index of the number of program treatments received[4] and basic skills proficiency were allowed to enter at this stage if they contributed to the explanation of the outcome of interest.[5] After the background variables were entered, the five primary employment outcome variables were then entered in separate analyses to see if, net of all of the previous factors, employment experience or enrollment in school contributed to the explanation of the outcomes. Thus the analyses examined whether measured individual differences in employment or schooling experience since intake (pretesting) account for any variance in measures of psychosocial development at follow-up over and above that accounted for by pre-existing individual differences.

Results

Table 2 shows the results for the model of Psychological Health at follow-up. The top panel of the table shows the variables that contribute significantly to the explanation of Psychological Health according to the model. The lower panel shows employment variables which were examined but that did not contribute to explanation net of the background variables. Column one ("r") shows the uncontrolled correlation between each predictor and the criterion. Column two ("beta") shows the direct contribution of each predictor to

the explanation of the criterion within the context of the model. Column three ("Increment to R^2") shows the proportion of variance in the criterion accounted for by adding a predictor to the model, net of other predictors entered earlier. Finally, the last column, ("p for increment") indicates the statistical significance of the added contribution (incremental validity) of each successive variable.

Insert Table 2 about here.

Table 2 shows that by far the strongest predictor of Psychological Health at post-test is Psychological Health at pretest. Basic skills proficiency at pretest and Rebellious Autonomy at pretest also significantly add to explanation of individual differences in the measure of Psychological Health at follow-up. More importantly, none of the employment variables adds anything to explained variance according to the model. In these data, employment does not affect Psychological Health one way or the other.

In contrast, re-enrollment in school has a significant <u>negative</u> effect on the Psychological Health of these dropout youths. Net of all the other measured factors, becoming re-involved in formal schooling produces a decrease in Psychological Health.

The results for a model of Interpersonal Competency at follow-up are shown in Table 3. The only significant background predictor is Interpersonal Competency at pretest. Again, none of the five indices of employment status explain any variance in Interpersonal Competency. However, as in the results for Psychological Health, returning to school has a negative effect on Interpersonal Competency according to the model.

Insert Table 3 about here.

Table 4 presents the results for the model of Rebellious Autonomy at follow-up. As expected, most of the explained variance is accounted for by Rebellious Autonomy as measured at pretest. In addition, one of the five measures of employment status contributes significantly to explanation--full-time work during the last six months is associated with a small but significant (R^2 for increment = .02, $p. < .05$) increase in Rebellious Autonomy. Youths who are or have been working full time are more likely to report that they can make it on their own, and that they do not want to be told what to do or how to spend their money.

Insert Table 4 about here.

The present data do not allow us to statistically model the effects of work and schooling on delinquency in a reasonable fashion. The delinquency measure--self-reported arrests--is measured concurrent with work and return to schooling. For all these measures, subjects reported about their behavior over the "last six months." There is no clear way, therefore, to use the employment and schooling data to "predict" the arrest reports--they occurred over the same period.

Because the relationship between work and delinquency in these data is of interest, however, Table 5 shows simple correlations between personal characteristics, employment status, and self-reported arrests. These correlations do not imply causality, but they are similar to data being used to advocate fewer employment opportunities for in-school youth (c.f. Greenberger, 1983). Because there was no attempt to control for background factors, N's for this analysis are larger than those of the previous analyses--all youth have been included, not just those for whom we had a basic skills score.

Insert Table 5 about here.

The only significant correlates of self-reported arrests are age, sex, and Interpersonal Competency at follow-up

(older youth, women, and higher Interpersonal Competency at follow-up are associated with fewer self-reported arrests). Only one of the six employment and school measures approaches significance: Hours currently working ($r=.11$, $p < .10$). Again, this is an uncontrolled simple correlation.

Discussion

Causal modeling is useful for examining the implications of these data for hypotheses about the effects of work and schooling. The method has risks and limitations (see Alwin & Hauser, 1975; Cook & Campbell, 1979), however, and these results should therefore be interpreted with caution. These potential limitations notwithstanding, the following interpretations are suggested by the foregoing results:

1. Most of the predictable variance in outcome measures of Psychological Health, Interpersonal Competency, and Rebellious Autonomy is explained by pre-existing differences among individuals. The best predictor of psychosocial status at follow-up is pretest psychosocial status. In all analyses, the largest predictor of personality measures at follow-up were personality measures at pretest. This result, while not surprising, should give pause to anyone who seeks to interpret correlational data without controlling for relevant previous information about individuals. Concurrent correlations should seldom serve as the basis of policy recommendations or decisions.

2. Youth employment has no measurable effect in these data on Psychological Health or Interpersonal Competency. These results offer no support to persons who argue that youth employment is beneficial or harmful. For an urban dropout sample such as that studied here, there may be other benefits to employment,[6] but benefits to psychological functioning do not appear to be among them.

3. The full-time employment of dropout youth produces small increases in Rebellious Autonomy, i.e. an increase in full-time work is associated with an increase in self-reported desire not to be told what to do or how to spend one's money. It should be emphasized that this was the only signficant relationship (controlling for background factors) out of 15 analyses of relationships between personality and various work indices. In general, over the period of time covered in this study, employment has little positive or negative effect on personal characteristics.

4. Returning to school has negative effects on both Psychological Health and Interpersonal Competency in this dropout sample. If the options for dropout youth are employment or return to school, this study suggests that employment is the better alternative. Other considerations, such as future income, might dictate other choices, but the short-term psychological health of dropouts deteriorates on return to schooling.

5. Self-reported arrests are not associated with employment status for these young urban dropouts. Reporting being picked up by the police is associated with being younger, being male, and reporting less Interpersonal Competency. There is no evidence in these data to suggest that employment is related to delinquency one way or the other.

The results do not support the contention that employment is harmful for the urban, dropout youths studied here. In short, these results do not undermine the conventional wisdom about youth employment, at least for youth who have already withdrawn from school. In contrast, however, the results do run counter to the conventional wisdom about schooling. Whereas persistence in school is generally regarded as an unquestioned good, these results suggest that return to schooling has negative psychological effects on youths who have already dropped out. In addition, the feared effects of employment on delinquent behavior do not receive support in these data. Dropout youth would appear to be better served by employment than by the other options available to them.

References

Alwin, D. F. & Hauser, R. M. (1975). The decomposition of effects in path analysis. American Sociological Review, 40, 37-47.

Bachman, J. G., Green, S. & Wirtanen, I. D. (1971). Youth in transition, Vol.III: Dropping out--problem or symptom? Ann Arbor, Mich.: University of Michigan Institute for Social Research.

Cook, M. S. (1983). The Milwaukee Youth Employment Center: Final Report. In Gottfredson, G. D., Gottfredson, D. C., & Cook, M. S.(Eds.), The School Action Effectiveness Study: Second Interim Report. Baltimore: Johns Hopkins University, Center for the Social Organization of Schools.

Cook, T. D., & Campbell, D. T. (1979). Quasi-experimentation. Chicago: Rand McNally.

Elliot, D. S., & Voss, H. L. (1974). Delinquency and Dropout. Lexington, Mass.: Lexington.

Gottfredson G. D., & Gottfredson, D. C. (Eds.). (1982). The School Action Effectiveness Study: First Interim Report. Baltimore: Johns Hopkins University, Center for the Social Organization of Schools.

Gottfredson, G.D., Gottfredson, D. C., & Cook, M. S. (Eds.) (1983). The School Action Effectiveness Study: Second Interim Report. Baltimore: Johns Hopkins University, Center for the Social Organization of Schools.

Greenberger, E. (1983). A researcher in the policy arena: The case of child labor. American Psychologist, 1, 106-111.

Greenberger, E., Steinberg, L., and Ruggiero, M. (1982). A job is a job...or is it? Work and Occupations, 9, 79-96.

Greenberger, E., Steinberg, L., and Vaux, A. (1981). Adolescents who work: Health and behavioral consequences of job stress. Developmental Psychology, 17, 691-703.

Hindelang, M. J., Hirschi, T., Weis, J. G. (1981). Measuring Delinquency. Beverly Hills, California: Sage Publications, Inc.

Hirschi, T. (1983). Crime and the family. In J. Q. Wilson (Ed.), Crime and Public Policy, San Francisco, Calif.: Institute for Contemporary Studies, 53-68.

Holland, J. L., & Baird, L. L. (1968). An interpersonal competency scale. Educational and Psychological Measurement, 68, 503-510.

Patterson, G. R. (1980). Children who steal. In Hirsci, T, & Gottfredson, M. (Eds.), Understanding Crime. Beverly Hills Calif.: Sage, 73-90.

Shannon, L. W. (1982a). Assessing the Relationship of Adult Criminal Careers to Juvenile Careers. U.S. Department of Justice, National Institute of Justice. Microfiche No. NCJ 77744 available from the National Juvenile Justice Clearinghouse of the National Criminal Justice Reference Service, Washington, D.C.

Shannon, L. W. (1982b). Assessing the Relationship of Adult Criminal Careers to Juvenile Careers: A Summary. Office of Juvenile Justice and Delinquency Prevention, National Institute for Juvenile Justice and Delinquency Prevention, Washington, D. C.

Shannon, L. W. (1983). Employment, education, and delinquency: Evidence from the Racine Cohort Study. Paper presented at the annual convention of the American Society of Criminology, Denver, Colorado, November, 1983.

Steinberg, L. D., Greenberger, E., Garduque, L., Ruggiero, M., and Vaux, A. (1982). Effects of working on adolescent development. Developmental Psychology, 18, 385-395.

Stephenson, S. P. Jr. (1979) From school to work: A transition with job search implications. Youth and Society, 11, 114-132.

Footnotes

[1]A logarithmic transformation was performed on the wage and earnings data to correct for skewness. In order to reduce redundancy in the analyses, the current hourly wage variable was not analyzed separately because it was highly correlated with the other measures of employment.

[2]It would have been interesting to examine the effects of each of these types of return to schooling, but there were too few youth in any one category for individual analyses.

[3]It would have been preferable to examine the police records of the subjects, but these records proved unattainable. A substantial amount of research has demonstrated that self-report measures of delinquency are moderately to highly correlated with official measures (see Hindelang, Hirschi, and Weis, 1981, p. 87-115 for a review). In their work, Hindelang, Hirschi, and Weis (1981) found that self-reported number of times picked up by the police were strongly related to several official delinquency measures, "...with gammas ranging from .63 to .86 among males, and from .51 to .85 among females" (p. 105).

[4]The treatment youths were split at the median on the number of counseling sessions they attended, the number of educational lessons they attended, and the number of job interviews they were referred to. An index of treatment participation was created by assigning one point for scoring above

the median on each of the these three measures. An additional point was awarded for receiving a job as a result of program efforts. The treatment index therefore ranged from 0 to 4. This score serves as a crude control for both motivational differences among individuals (sticking to the program) and effects on employment outcomes due to differential exposure to the program.

[5]In order to examine the effect of limiting the analyses only to treatment youth for whom the basic skills score was available, parallel sets of analyses were run in which basic skills were not entered. The results of these parallel analyses closely resemble the results reported here.

[6]For example, Stephenson, 1979, shows that for students not going on to college, employment while in high school decreases the incidence and duration of post-graduation unemployment, and raises post-graduation wages. These effects are stronger for full-time than part-time work while in school.

Table 1

Items in Scales Used to Measure Psychosocial Development

Scoring	Item
Psychological Health	
-	Others see me as a loser.
-	It's pretty tough to be me.
-	No matter what I do, it's not going to make any difference.
-	I feel I do not have much to be proud of.
-	These days I feel I'm just not a part of things.
-	I don't know whom I can count on these days.
-	I have little influence over what happens to me.
-	Good luck is more important than hard work.
	Pretest alpha = .61
	Posttest alpha = .59
	Seven month retest reliability = .40
Interpersonal Competency	
+	I know how to get along with adults.
+	I am the kind of person who can make it if I try.
+	If I want to, I can explain things well.
+	Others see me as successful.
+	I like myself.
+	My friends regard me as a person with good sense.
-	I feel no one really cares what happens to me.
	Pretest alpha = .45
	Posttest alpha = .46
	Seven month retest reliability = .19
Rebellious Autonomy	
+	What I do with my time is my own business.
+	I don't like anybody telling me what to do.
+	I can get along just fine on my own.
+	What happens to me is my own doing.
+	Nobody has the right to tell me how to spend my money.
	Pretest alpha = .49
	Posttest alpha = .49
	Seven month retest reliability = .39

Table 2

Direct Contributions and Incremental Validity of Explanatory Variables in a Model of Psychological Health at Follow-up

Predictor	r	beta	Increment to R^2	p for increment
Statistically significant predictors				
Psychological Health (pre)	.41	.41	.17	.001
Basic Skills Pretest	.26	.23	.04	.01
Rebellious Autonomy (pre)	-.21	-.20	.03	.02
Participation in formal schooling (concurrent)	-.23	-.17	.03	.04
Concurrent variables not significant net of pre-test measures				
Hours per week currently working	.10	.07	.00	.37
Weeks worked full-time last six months	.05	.04	.00	.61
Weeks worked part-time last six months	-.01	.01	.00	.85
Logged current weekly wages	.08	.08	.01	.28
Logged total earnings last six months	-.03	-.04	.00	.58

Note. The model was constructed by allowing significant pre-test or background predictors of Psychological Health at follow-up to enter the equation first, and then entering each of the concurrent work and schooling variables into the equation. Only participation in formal schooling significantly adds to the explanation of Psychological Health when pre-test measures are controlled for. Due to differential patterns of missing data, the models used to estimate the regression parameters for the non-significant regressors vary slightly from those for which the parameters are shown here. The differences are trivial. N's range from 132 to 156.

Table 3

Direct Contributions and Incremental Validity of Explanatory Variables in a Model of Interpersonal Competency at Follow-up

Predictor	r	beta	Increment to R^2	p for increment
Statistically significant predictors				
Interpersonal Competency (Pre-test)	.21	.21	.05	.01
Participation in formal schooling (concurrent)	-.25	-.24	.06	.005
Concurrent variables not significant net of pre-test measures				
Hours per week currently working	.09	.09	.01	.27
Weeks worked full-time last six months	.01	.03	.00	.75
Weeks worked part-time last six months	-.01	-.01	.00	.92
Logged current weekly wages	.04	.07	.01	.38
Logged total earnings last six months	.06	.11	.01	.19

Note. The model was constructed by allowing significant pre-test or background predictors of Interpersonal Competency at follow-up to enter the equation first, and then entering each of the concurrent work and schooling variables into the equation. Only participation in formal schooling significantly adds to the explanation of Interpersonal Competency when pre-test measures are controlled for. Due to differential patterns of missing data, the models used to estimate the regression parameters for the non-significant regressors vary slightly from those for which the parameters are shown here. The differences are trivial. N's range from 131 to 155.

Table 4

Direct Contributions and Incremental Validity of Explanatory Variables in a Model of Rebellious Autonomy at Follow-up

Predictor	r	beta	Increment to R^2	p for increment
Statistically significant predictors				
Rebellious Autonomy (pre)	.40	.40	.16	.001
Weeks worked full-time last six months	.15	.15	.02	.04
Concurrent variables not significant net of pre-test measures				
Hours per week currently working	.14	.12	.01	.17
Weeks worked part-time last six months	.01	.01	.00	.85
Logged current weekly wages	.09	.08	.01	.33
Logged total earnings last six months	.16	.12	.01	.12
Participation in formal schooling	.08	.12	.01	.15

Note. The model was constructed by allowing significant pre-test or background predictors of Rebellious Autonomy at follow-up to enter the equation first, and then entering each of the concurrent work and schooling variables into the equation. Only weeks worked full-time last six months significantly adds to the explanation of Rebellious Autonomy when pre-test measures are controlled for. Due to differential patterns of missing data, the models used to estimate the regression parameters for the non-significant regressors vary slightly from those for which the parameters are shown here. The differences are trivial. N's range from 130 to 154.

Table 5

Correlations of Personal Characteristics, and Employment And School Status with Number of Self-reported Arrests

Measured at Pretest	r	N
Age	-.13*	285
Sex (female = 1)	-.22*	288
Ethnicity (white = 1)	.03	291
Basic skills test	-.01	179
Psychological Health	.00	283
Rebellious Autonomy	-.02	284
Interpersonal Competency	-.04	280
Index of participation in treatment	-.12*	287

Measured at Follow-up	r	N
Hours currently working	.11	273
Weeks worked full-time last six months	.04	292
Weeks worked part-time last six months	-.01	291
Log-transformed current weekly wages	.00	269
Log-transformed total earnings last six months	.01	274
Re-enrollment in school	-.08	259
Psychological health	-.10	280
Rebellious Autonomy	-.04	277
Interpersonal Competency	-.14*	278

* $p < .05$